course of the second twenty-four hours; if no trouble from the ligature occurs during this time it is unlikely that there will be any grave consequence from occlusion of the carotid. Experiments on lower animals showed that the ligature did no damage to the intima. Senger, in 1895, employed the temporary ligature for the bloodless extirpation of a tumor of the thigh. The operation should be done under local anesthesia, in order that the effect on the brain may be observed, and the ligature withdrawn on the first appearance of any distinct symptoms. The ligature material may be a small linen band, a rubber band, catgut, or a forceps with its blades guarded with rubber covering. The chief point is to apply the constriction very carefully, until the temporal pulse disappears. A further indication for this procedure is to be found in the suture of arteries.

The Technique of Direct Transfusion of Blood.—CRILE (*Annals of Surgery*, 1907, xlvi, 329) bases his remarks on 225 experiments upon animals and 32 clinical cases. The blood was transferred from the artery of the donor to the vein of the recipient. In the clinical transfusions the radial artery of the donor and the proximal end of any superficial vein of the arm of the recipient were employed. Unless contra-indicated, both patients are given a hypodermic injection of morphine twenty minutes before the transfusion begins. The donor is placed on a Trendelenburg table, so that if he should become faint the head may be readily lowered. The recipient is placed upon an operating table with his head in the opposite direction. Infiltration anesthesia of 0.1 per cent. cocaine solution is employed, and the radial artery is exposed. A Crile clamp is applied to the proximal end of the artery and the distal end is ligated; the artery is divided; the adventitia pulled over the free end as far as possible and closely snipped off; a moist sponge now covers this field; 3 or 4 cm. of a superficial vein of the recipient is then likewise freed; the distal part ligated, the proximal closed with a Crile clamp; the distal part is divided with scissors, the adventitia drawn out as far as possible and closely snipped off; the vessels are then inspected and a cannula whose bore is larger than the actual tissue thickness of either vein or artery is selected. The vein may then be pushed through this tube, after which the freed end is turned back like a cuff and snugly tied in the second groove. The artery is then drawn over the vein and tied in the first groove with a small linen ligature. This completes the anastomosis. The clamp is then removed from the vein; afterward, gradually, from the artery; when the blood stream will be seen to pass from the artery across to the vein, dilating the latter. By this method intima comes in contact with intima, the blood is transferred without clotting. The blood lost by the donor is regained in from four to five days, and the amount transferred is under the immediate control of the operator. The rate of transference should be carefully gauged, because of the risk of overcharging the pulmonary circulation.

Ligation of the Ductus Arteriosus.—MUNRO (*Annals of Surgery*, 1907, xlvi, 335) reports a case of a healthy girl baby, that soon after birth exhibited symptoms of some cardiac lesion, out of keeping with the general appearance of perfect health and development. On severe exertion, such as straining at stool, it would become cyanotic and the cardiac beat would cease. At times the child would apparently die, only to recover as soon as the heart was stimulated with electricity. In a few weeks atelectasis developed, for which artificial expansion of the lungs under negative pressure in a pneumatic cabinet was tried. This met with only temporary success. Auscultation at this time revealed a cardiac murmur with the pulmonary rales, but cyanosis was not a marked feature. After death, which took place without œdema or marked cyanosis, examination showed an open distinct ductus arteriosus, lying easily within reach behind the sternum, without any other defect except a dilated right ventricle. Munro made further dissections and satisfied himself that it would be possible to ligate the duct, provided the diagnosis could be made beforehand. In the newborn the duct of Botalli is a little over 5 mm. in diameter and 10 to 15 mm. long. The length increases generally up to the time of obliteration, which, normally, is complete by the twentieth day. This period of patency is, therefore, normal. Townsend examined 100 newborn babies during the first three days of life, to throw some light on a pathological patency, but he was unable to hear anything instructive. In typical cases the foramen ovale is closed.

Concerning the operation which may be practised on these cases, Munro says that the sternum may be split along its centre with a knife. Retraction of the sternal halves, gives ample room. The right pleural cavity will, probably, be opened, but the left one will not. After retracting the thymus upward, the pericardium is exposed. Its reflection lies so high on the large vessels that the ductus, to all intents and purposes, is intrapericardial. In the upper angle the aorta will be seen on the patient's right and the pulmonary artery on the left. By following close to the aorta toward the under surface of the arch, the ductus, as large as the aorta itself, will be seen as the first vessel to the left, pointing upward and a little to the right. On pushing through the tissues by blunt dissection, the ductus, theoretically, should be easily surrounded by a ligature. Simple crushing might accomplish as much and is worth trying. After closing the anterior pericardial wound the sternum can be sutured or not and the skin closed.

Technique of Bloodvessel Suture.—Sweet (*Annals of Surgery*, 1907, xlvi, 350) believes that the exact end-to-end approximation is easier of execution than other methods; and since it accomplishes that great desideratum, the restoration of tissues as nearly as possible to their original position, it is perhaps theoretically correct. There is a unity of opinions that the suture material should be of fine silk, of a size carefully chosen so that it will completely fill the hole left by the needle, which should be of the smallest possible size, round, either straight or curved, according to the preference of the operator and the site of operation. Experimenters are further agreed that the stitches should include all the coats of the vessel, since the penetration of the intima is a matter of no consequence. All insult to the vessel wall, such as grasping it with forceps, must be rigidly avoided. If the edges of the wound have been crushed they should be refreshened by resecting a bit with a sharp scalpel; since the cut of a scissors is always a crushing one, they should not be used. Three tension sutures of fine silk, impregnated with vaselin, are